

SECTION 07720
ROOF ACCESSORIES

PART 1 - GENERAL

0.1 DESCRIPTION OF WORK

- A. Work Included: This Section specifies the following:
1. Roof hatches.
 2. Hatch-type heat and smoke vents.
- B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
1. Section 05500 - MISCELLANEOUS METALS: Metal vertical ladders, ships' ladders, and stairs for access to roof hatches, and from roof to roof.
 2. Section 06100 - ROUGH CARPENTRY: Wood cants and wood nailers
 3. Section 07620 - SHEET METAL FLASHING AND TRIM: Shop- and field-fabricated metal flashing and counterflashing, roof expansion-joint covers, and miscellaneous sheet metal trim and accessories.
 4. Section 15600 - HEATING, VENTILATING, AND AIR CONDITIONING: Roof-mounted ventilators.
 5. Division 16 - ELECTRICAL: Power supply and final connections for automatically operated heat and smoke vents.

0.2 SUBMITTALS

- A. Product Data: For each type of roof accessory indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show fabrication and installation details for roof accessories. Show layouts of roof accessories including plans and elevations. Indicate dimensions, weights, loadings, required clearances, method of field assembly, and components. Include plans, elevations, sections, details, and attachments to other work.

0.3 QUALITY ASSURANCE

- A. Sheet Metal Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" details for fabrication of units, including flanges and cap flashing to coordinate with type of roofing indicated.

0.4 DELIVERY, STORAGE, AND HANDLING

- A. Pack, handle, and ship roof accessories properly labeled in heavy-duty packaging to prevent damage.

0.5 PROJECT CONDITIONS

- A. Field Measurements: Verify required openings for each type of roof accessory by field measurements before fabrication and indicate measurements on Shop Drawings.

0.6 COORDINATION

- A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.

PART 2 - PRODUCTS

0.1 ROOF HATCHES

- A. Roof Hatches: Fabricate roof hatches with insulated double-wall lids and insulated double-wall curb frame with integral deck mounting flange and lid frame counterflashing. Fabricate with welded or mechanically fastened and sealed corner joints. Provide continuous weathertight perimeter gasketing and equip with corrosion-resistant or hot-dip galvanized hardware.
 - 1. Available Manufacturers:
 - a. Babcock-Davis; a Cierra Products Inc. Company.
 - b. Bilco Company (The).
 - c. Nystrom, Inc.
 - d. O'Keeffe's Inc.
 - e. Wasco Products, Inc.
 - 2. Loads: Fabricate roof hatches to withstand 40-lbf/sq. ft. external and 20-lbf/sq. ft. internal loads.
 - 3. Type and Size: Lid type and size as indicated on the Drawings.
 - 4. Curb and Lid Material: Galvanized steel sheet, 0.079 inch thick.
 - 5. Insulation: Manufacturer's standard board insulation.
 - 6. Interior Lid Liner: Manufacturer's standard metal liner of same material and finish as outer metal lid.
 - 7. Exterior Curb Liner: Manufacturer's standard metal liner of same material and finish as metal curb.
 - 8. Fabricate units to minimum height of 12 inches unless otherwise indicated.

9. Hardware: Galvanized steel spring latch with turn handles, butt- or pintle-type hinge system, and padlock hasps inside and outside.
10. Ladder Safety Post: Manufacturer's standard ladder safety post. Post to lock in place on full extension. Provide release mechanism to return post to closed position.

0.2 HEAT AND SMOKE VENTS

- A. Hatch-Type Heat and Smoke Vents: Manufacturer's standard hatch-type heat and smoke vents with integral double-wall insulated curbs and frame, with welded or sealed mechanical corner joints, integral condensation gutter, and cap flashing. Fabricate with insulated double-wall lid, continuous weathertight perimeter lid gaskets, and equip with automatic self-lifting mechanisms, UL-listed fusible links rated at 165 deg F and corrosion-resistant or hot-dip galvanized hardware including hinges, hold-open devices, and independent manual-release devices for inside and outside operation of lids.
 1. Available Manufacturers:
 - a. Babcock-Davis; a Cierra Products Inc. Company.
 - b. Bilco Company (The).
 - c. Nystrom, Inc.
 - d. O'Keeffe's Inc.
 - e. Wasco Products, Inc.
 2. Loads: Fabricate roof hatches to withstand 40-lbf/sq. ft. external and 20-lbf/sq. ft. internal loads. a. When release is actuated, lid shall open against 10-lbf/sq. ft. snow or wind load and lock in position.
 3. Type and Size: Lid type and size as indicated on the Drawings.
 4. Regulatory Requirements: UL 793 and NFPA 204.
 5. Heat and Smoke Vent Compliance: Provide units that have been tested and UL listed.
 6. Fire Resistance of Lids: UL Class A rating.
 7. Integral Curb, Framing, and Lid Material: Galvanized steel sheet, 0.079 inch thick.
 8. Insulation: Manufacturer's standard board.
 9. Fabricate integral curbs to minimum height of 12 inches unless otherwise indicated.

0.3 MISCELLANEOUS MATERIALS

- A. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, complying with AWPA C2; not less than 1-1/2 inches thick.
- B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type

noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

- C. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by roof accessory manufacturer. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners.
- D. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, or PVC; or flat design of foam rubber, sponge neoprene, or cork.
- E. Elastomeric Sealant: ASTM C 920, polyurethane sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

PART 3 - EXECUTION

0.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of work.
 - 1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored and is ready to receive roof accessories.
 - 2. Verify dimensions of roof openings for roof accessories.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

0.2 INSTALLATION

- A. General: Install roof accessories according to manufacturer's written instructions. Anchor roof accessories securely in place and capable of resisting forces specified. Use fasteners, separators, sealants, and other miscellaneous items as required for completing roof accessory installation. Install roof accessories to resist exposure to weather without failing, rattling, leaking, and fastener disengagement.
- B. Install roof accessories to fit substrates and to result in watertight performance.
- C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
 2. Underlayment: Where installing exposed-to-view components of roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene underlayment.
 3. Bed flanges in thick coat of asphalt roofing cement where required by roof accessory manufacturers for waterproof performance.
- D. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
- E. Roof Hatch Installation:
1. Check roof hatch for proper operation. Adjust operating mechanism as required. Clean and lubricate joints and hardware.
 2. Attach safety railing system to roof hatch curb.
 3. Attach ladder safety post according to manufacturer's written instructions.
- F. Heat and Smoke Vent Installation: Locate, install, and test heat and smoke vents according to NFPA 204.
1. Check heat and smoke vent for proper operation. Adjust operating mechanism as required.
- G. Seal joints with elastomeric sealant as required by manufacturer of roof accessories.

0.3 TOUCH UP

- A. Touch up factory-primed surfaces with compatible primer ready for field painting in accordance with Division 9 painting Sections.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

0.4 CLEANING

- A. Clean exposed surfaces according to manufacturer's written instructions.

PART 4 - MEASUREMENT AND PAYMENT

0.1 MEASUREMENT

- A. Roof accessories will be measured as per each complete in place, including all preparation, accessories and incidentals.

0.2 PAYMENT

- A. Payment for roof accessories will be made at the Contract unit price for the quantities as specified above.

0.3 PAYMENT ITEMS

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
0780.002	ROOF ACCESSORIES	EA

END OF SECTION

NOTES TO THE DESIGNER

- A. Any request to modify or waive the specification requirements listed below must be approved in writing by the MBTA's Director of Design:
1. None